

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number
WO 2005/090374 A1

(51) International Patent Classification⁷: **C07H 1/06, 5/02**

(21) International Application Number:
PCT/IN2004/000142

(22) International Filing Date: 20 May 2004 (20.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PCT/IN04/00064 19 March 2004 (19.03.2004) IN
563/MUM/2004 17 May 2004 (17.05.2004) IN

(71) Applicant (for all designated States except US):
PHARMED MEDICARE PRIVATE LIMITED
[IN/IN]; Pharmed Gardens, Whitefield Road, Bangalore
560 048, Karnataka (IN).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **RATNAM, Rakesh**
[IN/IN]; 74/F, Venus, Worli Sea Face, Mumbai 400 018,

Maharashtra (IN). **KULKARNI, Shrikant** [IN/IN]; 74/F, Venus, Worli Sea Face, Mumbai 400 018, Maharashtra (IN). **AURORA, Suneet** [IN/IN]; 74/F, Venus, Worli Sea Face, Mumbai 400 018, Maharashtra (IN).

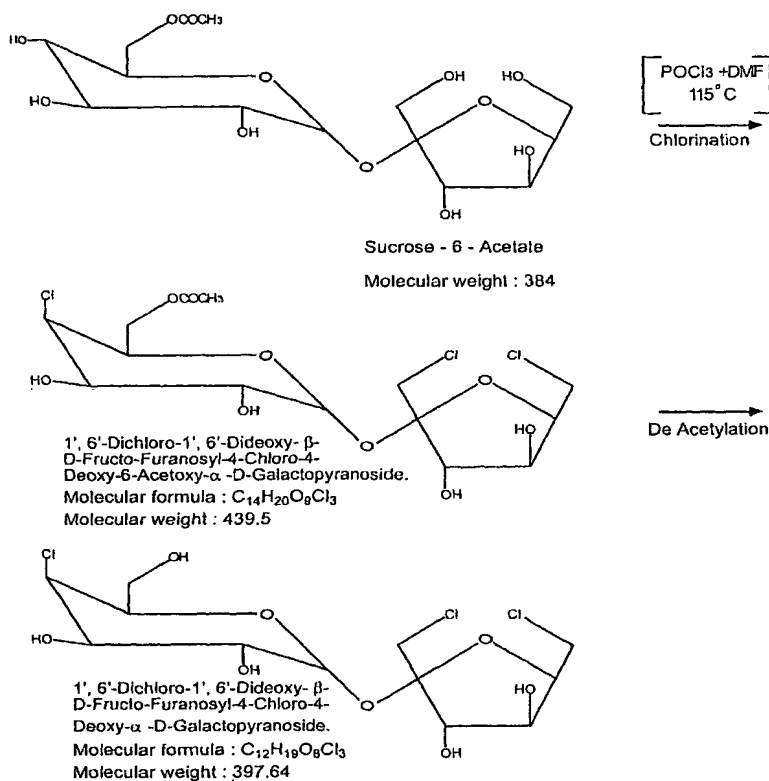
(74) Agents: **SAURASTRI, Manish** et al.; Krishna & Sauras-
tri, 74/F Venus, Worli Sea Face, Mumbai 400 018, Maha-
rashtra (IN).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB,
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,
PT, RO, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT,
TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: AN IMPROVED PROCESS FOR PRODUCING CHLORINATED SUCROSE



(57) Abstract: Present invention relates to disclosure of application of some innovative techniques useful for substantially improving process efficiency of production of chlorinated sucrose including their intermediates and derivatives. Application of mild methods of drying has been made for recovery of chlorinated sucrose or their intermediates and derivatives, in substantially pure form or with other solid chemical impurities, obtained at various stages in the process of production of chlorinated sucrose. Mild methods of drying included agitated thin film drying, spray drying, freeze drying and super critical extraction. Use of alkoxides has been introduced for deacetylation instead of alkali hydroxides or alkaline earth hydroxides. Deacetylation has been shown to be effective both, either before or after drying of the reaction mixture. Extraction and purification of desired products i.e. of chlorinated sucrose or its intermediates or derivatives, from dried solid mixtures could be achieved by using appropriate extraction method, including but not limited to solvent extraction and super critical extraction. Further purification of such extracts can be done by crystallization or direct drying under mild conditions.



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*

— *with amended claims and statement*

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.